BIOMETRIC INITIATED COMMUNICATION

CROSS-REFERENCE TO RELATED APPLICATION

The present application claims the benefit under 35 U.S.C. §119(e) to U.S. Provisional Patent Application No. 61/666,769, which was filed on Jun. 29, 2012, and entitled "Biometric Initiated Communication," which is incorporated by reference as if fully disclosed herein.

TECHNICAL FIELD

The present invention relates generally to electronic devices, and more specifically to electronic devices that execute commands in response to receipt of biometric or other information indicating certain predetermined commands.

BACKGROUND

Electronic devices, such as mobile or cellular phones, may be equipped with functionality for contacting emergency services in an expedited manner. For example, a mobile phone may prominently display instructions for contacting "911" or other emergency services in a way that by-passes password entry or log-in screens. However, when a user utilizes a mobile phone to contact emergency services in this way, that fact that he is doing so can be readily apparent to someone watching his actions. Thus, in a situation where the device owner is forced to unlock or otherwise use his phone by an assailant, contacting emergency services in the conventional manner may not be practical. Accordingly, in conventional systems, a user is unable to comply with an assailant's commands, while at the same time discreetly contacting emergency services.

SUMMARY

Examples of embodiments described herein may take the form of an electronic device having a touch processing module that processes touch screen input to determine if the manner in which the touch screen input was entered indicates that the user intends for the electronic device to execute a particular command.

In one embodiment, the touch processing module acquires fingerprint data from the user's entry of touch screen input, and analyzes the fingerprint data to determine if the touch screen input was entered with a particular finger or finger sequence that the user has predetermined to indicate a particular command.

In another embodiment, the touch processing module may also acquire timing data from the user's entry of a plurality of touch screen inputs, and analyze the timing data to determine if the touch screen input was entered with a particular timing or cadence that the user has predetermined to indicate a particular command.

In still another embodiment, the touch processing module may also acquire force data from the user's entry of a plurality of touch screen inputs, and analyze the force data to determine to determine if the touch screen input was entered with a particular force that the user has predetermined to indicate a particular command.

In accordance with various example embodiments described herein, a electronic device may execute a particular command if the manner in which touch screen input was entered indicates that the user intends for the electronic

device to execute the particular command. The electronic device may execute the particular command discreetly so that no indication of the execution is apparent. The electronic device may also execute the particular command concurrently with a command that is explicitly indicated by the touch screen input. In one embodiment, the manner in which touch screen input was entered indicates a panic command to which the electronic device responds by calling emergency services and providing geographic location information and/or streaming audio or video from the electronic device. In another embodiment, the manner in which touch screen input was entered indicates a macro command that includes a series of commands that when executed together execute the macro command.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic illustration of a electronic device embodiment that includes a touch screen device provided in association with a computing system;

FIG. 2 is a schematic illustration of system architecture for the electronic device shown in FIG. 1;

FIG. 3 is a flow chart illustrating a first method of processing touch input in an electronic device to extract commands to be executed by the electronic device;

FIG. 4 is a flow chart illustrating a second method of processing touch input in an electronic device to extract commands to be executed by the electronic device; and

FIG. 5 is a flow chart illustrating a third method of processing touch input in an electronic device to extract commands to be executed by the electronic device.

SPECIFICATION

This disclosure relates generally to an electronic device having a touch processing module that processes touch screen input to determine if the manner in which the touch screen input was entered indicates that the user intends for the electronic device to execute a particular command. In making such a determination, various electronic device embodiments use fingerprint data, timing data, and/or force data that is acquired from the user as the user enters a touch screen input. An electronic device in accordance with embodiments discussed herein may execute a particular command if the user enters touch screen input in a manner that indicates that the user intends for the electronic device to execute the particular command. Such a command may differ from the explicit command that is specified by the touch screen input itself. By executing a command in this way, the electronic device is able to execute a command discreetly so that no indication of the execution is apparent.

Embodiments described herein may be configured to operate with a variety of sensors, including strip or swipe sensors, array or other two-dimensional sensors, and the like. FIG. 1 is a schematic illustration of an electronic device 1000 in accordance with embodiments discussed herein. As shown in FIG. 1, an electronic device 1000 embodiment may include touch I/O device 1001 that can receive touch input for interacting with computing system 1003 via wired or wireless communication channel 1002. Touch I/O device 1001 may be used to provide user input to computing system 1003 in lieu of or in combination with other input devices such as a keyboard, mouse, etc. One or more touch I/O devices 1001 may be used for providing user input to computing system 1003. Touch I/O device 1001 may be an integral part of computing system 1003 (e.g., touch screen on a laptop) or may be separate from computing system